Index of Authors

ABABOUCH, L. & BUSTA, F. F. Effect of thermal treatments in oils on bacterial spore survival 491

ABABOUCH, L., DIKRA, A. & BUSTA, F. F. Tailing of survivor curves of clostridial spores heated in edible oils 503

AIHARA, H. *see* WATANABE, K.

ALARCON, B., LOPEZ, M. M., CAMBRA, M. & ORTIZ, J. Comparative study of *Agrobacterium* biotypes 1, 2 and 3 by electrophoresis and serological methods 295

ANDERSSON, K. *see* WADSTRÖM, T.

ANOZIE, S. O. *see* ANTAI, S. P.

ANSON, A., FISHER, P. J., KENNEDY, A. F. D. & SUTHERLAND, I. W. A bacterium yielding a polysaccharide with unusual properties 147

ANTAI, S. P. Incidence of *Staphylococcus aureus*, coliforms and antibiotic resistant strains of *Escherichia coli* in rural water supplies in Port Harcourt 371

ANTAI, S. P. & ANOZIE, S. O. Incidence of infantile diarrhoea due to enteropathogenic *Escherichia coli* in Port Harcourt metropolis 227

AXELSSON, L. & LINDGREN, S. Characterization and DNA homology of *Lactobacillus* strains isolated from pig intestine 433

AXELSSON, L. *see* WADSTRÖM, T.

BALBA, M. T. M. *see* COUTTS, D. A. P.

BARR, J. G. *see* HOGG, G. M.

BAYLISS, C. E. *see* SLADE, A. P.

BECKERS, H. J., HEIDE, J. V. D., FENIGSEN-NARUCKA, U. & PETERS, R. Fate of salmonellas and competing flora in meat sample enrichments in buffered peptone water and in Muller-Kauffmann's tetrathionate medium 97

BEJAR, V. *see* DEL MORAL, A.

BERG, J. D. *see* FIKSDAL, L.

BEUCHAT, L. R. Efficacy of some methods and media for detecting and enumerating *Campylobacter jejuni* in frozen chicken meat 217

BILAL, R. & MALIK, K. A. Isolation and identification of a N_2-fixing zoogloea-forming bacterium from kallar grass histoplane 289

BLACKALL, P. J. *see* FLETCHER, M. T.

BOLTON, F. J., COATES, D., HUTCHINSON, D. N. & GODFREE, A. F. A study of thermophilic campylobacters in a river system 167

BRADSHAW, D. J. *see* KEEVIL, C. W.

BRATCHELL, N. *see* GIBSON, A. M.

BROWN, A. *see* MAMO, W.

BUSTA, F. F. *see* ABABOUCH, L.

CAMBRA, M. *see* ALARCON, B.

CHANDER DOGRA, R. *see* SAINI, I.

CHANDLER, R. E. *see* MCMEEKIN, T. A.

COATES, D. *see* BOLTON, F. J.

COLEMAN, G. *see* FYFE, L.

COLLINS, C. H. & KENNEDY, D. A. Microbiological hazards of occupational needlestick and 'sharps' injuries 385

COUTTS, D. A. P., SENIOR, E. & BALBA, M. T. M. Multi-stage chemostat investigation of interspecies interactions in a hexanoate-catabolizing microbial association isolated from anoxic landfill 251

DAINTY, R. H. *see* EDWARDS, R. A.

DEETH, H. C. *see* SHELLEY, A. W.

DEL MORAL, A., QUESADA, E., BEJAR, V. & RAMOS-CORMENZANA, A. Evolution of bacterial flora from a subterranean well by graduated salinity changes in enrichment media 465

DIKRA, A. *see* ABABOUCH, L.

DOE, P. E. *see* MCMEEKIN, T. A.

DOHENY, C. M. *see* FLETCHER, M. T.

DOWSETT, A. B. *see* KEEVIL, C. W.

DURING, M. *see* HAVELAAR, A. H.

EASTERBROOK, T. J. & WEST, P. A. Comparison of most probable number and pour plate procedures for isolation and enumeration of sulphite-reducing *Clostridium* spores and Group D faecal streptococci from oysters 413

EDWARDS, R. A., DAINTY, R. H. & HIBBARD, C. M. Volatile compounds produced by meat pseudomonads and related reference strains during growth on beef stored in air at chill temperatures 403

ELDER, E., WORLEY, S. D. & WILLIAMS, D. E. Bactericidal properties of an organic N-chloramine formed *in situ* 457

ENGEL, H. W. B. *see* NOTERMANS, S.

FAIRBAIRN, D. J. & LAW, B. A. The effect of nitrogen and carbon sources on proteinase production by *Pseudomonas fluorescens* 105

FEARY, T. W. *see* KEEVIL, C. W.

FENIGSEN-NARUCKA, U. *see* BECKERS, H. J.

FENTON, M. P. An investigation into the sources of lactic acid bacteria in grass silage 181

FIKSDAL, L. & BERG, J. D. Evaluation of a fluorescent antibody technique for the rapid enumeration of *Bacteroides fragilis* group of organisms in water 377
FISHER, P. J. *see* ANSON, A.
FLETCHER, M. T., BLACKALL, P. J. & DOHENY, C. M. A note on the isoprenoid quinone content of *Bordetella avium* and related species 275
FRANC, G. D. *see* HARRISON, M. D.
FYFE, L., COLEMAN, G. & MUNRO, A. L. S. A comparative study of the formation of extracellular proteins by *Aeromonas salmonicida* at two different temperatures 367
GARLAND, C. D. *see* MCMEEKIN, T. A.
GASHE, B. A. Kocho fermentation 473
GAYA, P., MEDINA, M. & NUÑEZ, M. Enterobacteriaceae, coliforms, faecal coliforms and salmonellas in raw ewes' milk 321
GIBSON, A. M., BRATCHELL, N. & ROBERTS, T. A. The effect of sodium chloride and temperature on the rate and extent of growth of *Clostridium botulinum* type A in pasteurized pork slurry 479
GILBERT, P. *see* WRIGHT, N. E.
GILMOUR, A. *see* LEWIS, S. J.
GODFREE, A. F. *see* BOLTON, F. J.
GORMAN, S. P., MCCAFFERTY, D. F., WOOLFSON, A. D. & JONES, D. S. Reduced adherence of micro-organisms to human mucosal epithelial cells following treatment with Taurolin, a novel antimicrobial agent 315
GRIFFITHS, M. W. *see* PHILLIPS, J. D.
GULLMAR, B. *see* WADSTRÖM, T.
HARRISON, M. D., FRANC, G. D., MADDOX, D. A., MICHAUD, J. E. & MCCARTER-ZORNER, N. J. Presence of *Erwinia carotovora* in surface water in North America 565
HASTINGS, J. W. & HOLZAPFEL, W. H. Conventional taxonomy of lactobacilli surviving radurization of meat 209
HAVELAAR, A. H., DURING, M. & VERSTEEGH, J. F. M. Ampicillin-dextrin agar medium for the enumeration of *Aeromonas* species in water by membrane filtration 279
HAVELAAR, A. H., HOGEBOOM, W. M., SEKHUIS, V. M. & VAN ERNE, E. H. W. Proficiency testing of water microbiology laboratories in The Netherlands 555
HEIDE, J. V. D. *see* BECKERS, H. J.
HIBBARD, C. M. *see* EDWARDS, R. A.
HINTON, M. *see* KAUKAS, A.
HJERTÉN, S. *see* MAMO, W.
HOGEBOOM, W. M. *see* HAVELAAR, A. H.
HOGG, G. M., PATTERSON, M. F. & BARR, J. G. Correlation between antibiotic sensitivity testing by conventional and conductivity measurements 189
HOLLAND, K. T. *see* MARSHALL, J.
HOLMES, B. Identification and distribution of *Flavobacterium meningosepticum* in clinical material 29
HOLZAPFEL, W. H. *see* HASTINGS, J. W.
HOOGERHOUT, P. *see* NOTERMANS, S.
HUGHES, M. *see* SHEPPARD, A. J.
HUTCHINSON, D. N. *see* BOLTON, F. J.
JAYASHEELA, M., SINGH, G., SHARMA, N. C. & SAXENA, S. N. A new scheme for phage typing *Salmonella bareilly* and characterization of typing phages 429
JONES, D. S. *see* GORMAN, S. P.
JONES, R. P. Use of iso-osmolality plots to characterize yeast fermentative performance 349
KAUKAS, A., HINTON, M. & LINTON, A. H. The effect of ampicillin and tylosin on the faecal enterococci of healthy young chickens 441
KEEVIL, C. W., BRADSHAW, D. J., DOWSETT, A. B. & FEARY, T. W. Microbial film formation: dental plaque deposition on acrylic tiles using continuous culture techniques 129
KELL, D. B. sce LOVITT, R. W.
KENNEDY, A. F. D. *see* ANSON, A.
KENNEDY, D. A. *see* COLLINS, C. H.
KENYON, C. P. *see* PRIOR, B. A.
LAW, B. A. *see* FAIRBAIRN, D. J.
LEEMING, J. P. *see* MARSHALL, J.
LEWIS, S. J. & GILMOUR, A. Microflora associated with the internal surfaces of rubber and stainless steel milk transfer pipeline 327
LIESSENS, J. *see* SUHAIMI, M.
LINDGREN, S. *see* AXELSSON, L.
LINDGREN, S. *see* WADSTRÖM, T.
LINTON, A. H. *see* KAUKAS, A.
LOPEZ, M. M. *see* ALARCON, B.
LOVITT, R. W., MORRIS, J. G. & KELL, D. B. The growth and nutrition of *Clostridium sporogenes* NCIB 8053 in defined media 71
LOVITT, R. W., KELL, D. B. & MORRIS, J. G. The physiology of *Clostridium sporogenes* NCIB 8053 growing in defined media 81
MACRAE, I. C. *see* SHELLEY, A. W.
MADDOX, D. A. *see* HARRISON, M. D.
MALIK, K. A. *see* BILAL, R.
MALLIDIS, C. G. & SCHOLEFIELD, J. Relation of the heat resistance of bacterial spores to chemical composition and structure I. Relation to core components 65
MAMO, W., ROZGONYI, F., BROWN, A., HJERTÉN, S. & WADSTRÖM, T. Cell surface hydrophobicity and charge of *Staphylococcus aureus* and coagulase-negative staphylococci from bovine mastitis 241

MANCHEE, R. J. *see* TITBALL, R. W.
MARSHALL, J., LEEMING, J. P. & HOLLAND, K. T. The cutaneous microbiology of normal human feet 139
MATTILA, T. A modified Kelsey-Sykes method for testing disinfectants with 2,3,5-triphenyltetrazolium chloride reduction as an indicator of bacterial growth 551
MCCAFFERTY, D. F. *see* GORMAN, S. P.
MCCARTER-ZORNER, N. J. *see* HARRISON, M. D.
MCLAREN, I. *see* WRAY, C.
MCMEEKIN, T. A., CHANDLER, R. E., DOE, P. E., GARLAND, C. D., OLLEY, J., PUTRO, S. & RATKOWSKY, D. A. Model for combined effect of temperature and salt concentration/water activity on the growth rate of *Staphylococcus xylosus* 543
MEDINA, M. *see* GAYA, P.
MICHAUD, J. E. *see* HARRISON, M. D.
MILDENHALL, J. P. *see* PRIOR, B. A.
MONTEOLIVA-SANCHEZ, M. & RAMOS-CORMENZANA, A. Cellular fatty acid composition in moderately halophilic Gram-negative rods 361
MORAN, A. P. & UPTON, M. E. Effect of medium supplements, illumination and superoxide dismutase on the production of coccoid forms of *Campylobacter jejuni* ATCC 29428 43
MORAN, A. P. & UPTON, M. E. Factors affecting production of coccoid forms by *Campylobacter jejuni* on solid media during incubation 527
MORRIS, J. G. *see* LOVITT, R. W.
MUNRO, A. L. S. *see* FYFE, L.
NAGPAL, P. *see* SAINI, I.
NAKAMURA, R. *see* WATANABE, K.
NOTERMANS, S., WIETEN, G., ENGEL, H. W. B., ROMBOUTS, F. M., HOOGERHOUT, P. & VAN BOOM, J. H. Purification and properties of extracellular polysaccharide (EPS) antigens produced by different mould species 157
NUÑEZ, M. *see* GAYA, P.
OLLEY, J. *see* MCMEEKIN, T. A.
ORTIZ, J. *see* ALARCON, B.
OUE, M. *see* SHIMADA, T.
PATTERSON, M. F. *see* HOGG, G. M.
PETERS, R. *see* BECKERS, H. J.
PHILLIPS, J. D. & GRIFFITHS, M. W. A note on the use of the Catalasemetre in assessing the quality of milk 223
PRIOR, B. A., KENYON, C. P., VAN DER VEEN, M. & MILDENHALL, J. P. Water relations of solute accumulation in *Pseudomonas fluorescens* 119
PUTRO, S. *see* MCMEEKIN, T. A.
QUESADA, E. *see* DEL MORAL, A.
RAMOS-CORMENZANA, A. *see* MONTEOLIVA-SANCHEZ, M.
RAMOS-CORMENZANA, A. *see* DEL MORAL, A.
RATKOWSKY, D. A. *see* MCMEEKIN, T. A.
RICHARDS, S. & RUSSELL, C. The effect of sucrose on the colonization of acrylic by *Candida albicans* in pure and mixed culture in an artificial mouth 421
RILEY, T. V. A note on hydrolysis of tributyrin by *Branhamella* and *Neisseria* 539
ROBERTS, T. A. *see* GIBSON, A. M.
ROMBOUTS, F. M. *see* NOTERMANS, S.
ROZGONYI, F. *see* MAMO, W.
RUSSELL, C. *see* RICHARDS, S.
SAINI, I., CHANDER DOGRA, R. & NAGPAL, P. Uptake hydrogenase in fast-growing strains of *Rhizobium* sp. (*Sesbania*) in relation to nitrogen fixation 449
SAKAZAKI, R. *see* SHIMADA, T.
SAXENA, S. N. *see* JAYASHEELA, M.
SCHOLEFIELD, J. *see* MALLIDIS, C. G.
SEKHUIS, V. M. *see* HAVELAAR, A. H.
SENIOR, E. *see* COUTTS, D. A. P.
SHARMA, N. C. *see* JAYASHEELA, M.
SHELLEY, A. W., DEETH, H. C. & MACRAE, I. C. A numerical taxonomic study of psychrotrophic bacteria associated with lipolytic spoilage of raw milk 197
SHEPPARD, A. J., HUGHES, M. & STEPHEN, J. Affinity purification of tetanus toxin using polyclonal and monoclonal antibody immunoadsorbents 335
SHIMADA, K. & SHIMAHARA, K. Effect of alternating current exposure on the resistivity of resting *Escherichia coli* B cells to crystal violet and other basic dyes 261
SHIMADA, T., SAKAZAKI, R. & OUE, M. A bioserogroup of marine vibrios possessing somatic antigen factors in common with *Vibrio cholerae* 01 453
SHIMAHARA, K. *see* SHIMADA, K.
SINGH, G. *see* JAYASHEELA, M.
SLADE, A. P., WYATT, G. M., BAYLISS, C. E. & WAITES, W. M. Comparison of populations of human faecal bacteria before and after *in vitro* incubation with plant cell wall substrates 231
STEPHEN, J. *see* SHEPPARD, A. J.
SUHAIMI, M., LIESSENS, J. & VERSTRAETE, W. NH_4^+–N assimilation by *Rhodobacter capsulatus* ATCC 23782 grown axenically and non-axenically in N and C rich media 53
SUTHERLAND, I. W. *see* ANSON, A.
SYDOW, M. *see* WADSTRÖM, T.
TACHI, N. *see* WATANABE, K.
TITBALL, R. W. & MANCHEE, R. J. Factors affecting the germination of spores of *Bacillus anthracis* 269

TURANTAŞ, F. *see* ÜNLÜTÜRK, A.
ÜNLÜTÜRK, A. & TURANTAŞ, F. Bactericidal effect of hydrogen peroxide on *Salmonella typhimurium* in liquid whole egg 25
UPTON, M. E. *see* MORAN, A. P.
VAN BOOM, J. H. *see* NOTERMANS, S.
VAN DER VEEN, M. *see* PRIOR, B. A.
VAN ERNE, E. H. W. *see* HAVELAAR, A. H.
VERSTEEGH, J. F. M. *see* HAVELAAR, J. F. M.
VERSTRAETE, W. *see* SUHAIMI, M.
WADSTRÖM, T. *see* MAMO, W.
WADSTRÖM, T., ANDERSSON, K., SYDOW, M., AXELSSON, L., LINDGREN, S. & GULLMAR, B. Surface properties of lactobacilli isolated from the small intestine of pigs 513
WAITES, W. M. *see* SLADE, A. P.
WALKER, P. D. Presidential address: Current trends and advances in bacterial vaccines today 1
WATANABE, K., AIHARA, H., TACHI, N. & NAKAMURA, R. Degradations of 4-cholesten-3-one and 1,4-andostadiene-3,17-dione by cholesterol-degrading bacteria 151
WEST, P. A. *see* EASTERBROOK, T. J.
WIETEN, G. *see* NOTERMANS, S.
WILLIAMS, D. E. *see* ELDER, E.
WOOLFSON, A. D. *see* GORMAN, S. P.
WORLEY, S. D. *see* ELDER, E.
WRAY, C. & MCLAREN, I. A note on the effect of the lactoperoxidase systems on salmonellas *in vitro* and *in vivo* 115
WRIGHT, N. E. & GILBERT, P. Influence of specific growth rate and nutrient limitation upon the sensitivity of *Escherichia coli* towards chlorhexidine diacetate 309
WYATT, G. M. *see* SLADE, A. P.
ZHENG, X. B. Isolation of *Yersinia enterocolitica* from the faeces of diarrhoeic swine 521

Index of Subjects

Aeromonas salmonicida exoproteins (FYFE, COLEMAN & MUNRO) 367
Affinity purification (SHEPPARD, HUGHES & STEPHEN) 335
Agrobacterium (ALARCON, LOPEZ, CAMBRA & ORTIZ) 295
Alternating current exposure (SHIMADA & SHIMAHARA) 261
Antibiotic-resistant *Escherichia coli* (ANTAI) 371
Antibiotic sensitivity testing (HOGG, PATTERSON & BARR) 189
Artificial mouth (RICHARDS & RUSSELL) 421
Bacillus anthracis germination (TITBALL & MANCHEE) 269
Bacterial polysaccharide (ANSON, FISHER, KENNEDY & SUTHERLAND) 147
Bacterial vaccines (WALKER) 1
Bactericidal effect of hydrogen peroxide (ÜNLÜTÜRK & TURANTAŞ) 25
Bacteroides fragilis group (FIKSDAL & BERG) 377
Campylobacters (BOLTON, COATES, HUTCHINSON & GODFREE) 167
Campylobacter jejuni (MORAN & UPTON) 43, 527
Campylobacter jejuni in frozen chicken meat (BEUCHAT) 217
Catalase activity in milk (PHILLIPS & GRIFFITHS) 223
Chloramine disinfectant (ELDER, WORLEY & WILLIAMS) 457
Chlorhexidine sensitivity (WRIGHT & GILBERT) 309
Cholesterol-degrading bacteria (WATANABE, AIHARA, TACHI & NAKAMURA) 151
Clostridium botulinum growth rate (GIBSON, BRATCHELL & ROBERTS) 479
Clostridium sporogenes (LOVITT, MORRIS & KELL) 71
Clostridium sporogenes (LOVITT, KELL & MORRIS) 81
Cutaneous microbiology (MARSHALL, LEEMING & HOLLAND) 139
Erwinia carotovora (HARRISON, FRANC, MADDOX, MICHAUD & MCCARTER-ZORNER) 565
Ewes' milk (GAYA, MEDINA & NUÑEZ) 321
Extracellular polysaccharides of moulds (NOTERMANS, WIETEN, ENGEL, ROMBOUTS, HOOGERHOUT & VAN BOOM) 157
Faecal bacterial populations (SLADE, WYATT, BAYLISS & WAITES) 231
Faecal enterococci (KAUKAS, HINTON & LINTON) 441
Fatty acids (MONTEOLIVA-SANCHEZ & RAMOS-CORMENZANA) 361
Flavobacterium meningosepticum (HOLMES) 29
Grass silage (FENTON) 181
Growth rate model (MCMEEKIN, CHANDLER, DOE, GARLAND, OLLEY, PUTRO & RATKOWSKY) 543
Halophilic micro-organism (DEL MORAL, QUESADA, BEJAR & RAMOS-CORMENZANA) 465
Hazards of needlestick (COLLINS & KENNEDY) 385
Heat resistance (ABABOUCH & BUSTA) 491
Heat resistance of bacterial spores (MALLIDIS & SCHOLEFIELD) 65
Hydrophobicity of *Staphylococcus aureus* (MAMO, ROZGONYI, BROWN, HJERTÉN & WADSTRÖM) 241
Infantile diarrhoea (ANTAI & ANOZIE) 227
Isoprenoid quinones (FLETCHER, BLACKALL & DOHENY) 275
Kocho fermentation (GASHE) 473
Lactobacilli (AXELSSON & LINDGREN) 433
Lactobacilli (WADSTRÖM, ANDERSSON, SYDOW, AXELSSON, LINDGREN & GULLMAR) 513
Meat sample enrichments (BECKERS, HEIDE, FENIGSEN-NARUCKA & PETERS) 97
Membrane filtration (HAVELAAR, DURING & VERSTEEGH) 279
Microbial films (KEEVIL, BRADSHAW, DOWSETT & FEARY) 129
Milking equipment surfaces (LEWIS & GILMOUR) 327
Multi-stage chemostat (COUTTS, SENIOR & BALBA) 251
NH_4^+–N assimilation by *Rhodobacter* sp. (SUHAIMI, LIESSENS & VERSTRAETE) 53
Osmolality (JONES) 349
Oysters (EASTERBROOK & WEST) 413
Phage typing (JAYASHEELA, SINGH, SHARMA & SAXENA) 429
Pseudomonas fluorescens proteinase (FAIRBAIRN & LAW) 105
Psychrotrophic bacteria (SHELLEY, DEETH & MACRAE) 197
Quality control (HAVELAAR, HOGEBOOM, SEKHUIS & VAN ERNE) 555
Radurization of meat (HASTINGS & HOLZAPFEL) 209
Salmonellas and lactoperoxidase systems (WRAY & MCLAREN) 115

Spoilage volatiles (EDWARDS, DAINTY & HIBBARD) 403
Survivor curves (ABABOUCH, DIKRA & BUSTA) 503
Taurolin (GORMAN, MCCAFFERTY, WOOLFSON & JONES) 315
Tributyrin hydrolysis (RILEY) 539
Triphenyltetrazolium chloride (MATTILA) 551
Uptake hydrogenase (SAINI, CHANDER DOGRA & NAGPAL) 449
Vibrio cholerae 01 (SHIMADA, SAKAZAKI & OUE) 453
Water relations (PRIOR, KENYON, VAN DER VEEN & MILDENHALL) 119
Yersinia enterocolitica (ZHENG) 521
Zoogloea (BILAL & MALIK) 289

THE JOURNAL

OF

APPLIED BACTERIOLOGY

EDITED FOR THE SOCIETY

BY

M. SUSSMAN, F. A. SKINNER

AND

G. I. BARROW

VOLUME 62, 1987

Copyright © 1987, by The Society for Applied Bacteriology

ALL RIGHTS RESERVED

No part of this volume may be reproduced in any form, by photostat, microfilm, or any other means, without written permission from the Society

ISSN 0021–8847

Published by Blackwell Scientific Publications Ltd.,

Oxford, London, Edinburgh, Boston, Palo Alto

and Melbourne

Printed in Great Britain

Contents

No. 1 (January 1987)

1 *Presidential Address:* Current trends and advances in bacterial vaccines today
P. D. WALKER

Food and Milk

25 Bactericidal effect of hydrogen peroxide on *Salmonella typhimurium* in liquid whole egg
A. ÜNLÜTÜRK & F. TURANTAŞ

Medical, Dental and Veterinary

29 Identification and distribution of *Flavobacterium meningosepticum* in clinical material
B. HOLMES

43 Effect of medium supplements, illumination and superoxide dismutase on the production of coccoid forms of *Campylobacter jejuni* ATCC 29428
A. P. MORAN & MARY E. UPTON

Microbial Physiology

53 NH_4^+–N assimilation by *Rhodobacter capsulatus* ATCC 23782 grown axenically and non-axenically in N and C rich media
M. SUHAIMI, J. LIESSENS & W. VERSTRAETE

65 Relation of the heat resistance of bacterial spores to chemical composition and structure I. Relation to core components
C. G. MALLIDIS & J. SCHOLEFIELD

71 The growth and nutrition of *Clostridium sporogenes* NCIB 8053 in defined media
R. W. LOVITT, J. G. MORRIS & D. B. KELL

81 The physiology of *Clostridium sporogenes* NCIB 8053 growing in defined media
R. W. LOVITT, D. B. KELL & J. G. MORRIS

93 Book reviews

96 Acknowledgements

No. 2 (February 1987)

Food and Milk

97 Fate of salmonellas and competing flora in meat sample enrichments in buffered peptone water and in Muller–Kauffmann's tetrathionate medium
H. J. BECKERS, J. V. D. HEIDE, U. FENIGSEN-NARUCKA & R. PETERS

105 The effect of nitrogen and carbon sources on proteinase production by *Pseudomonas fluorescens*
D. J. FAIRBAIRN & B. A. LAW

115 A note on the effect of the lactoperoxidase systems on salmonellas *in vitro* and *in vivo*
C. WRAY & I. MCLAREN

119 Water relations of solute accumulation in *Pseudomonas fluorescens*
B. A. PRIOR, C. P. KENYON, MICHELLE VAN DER VEEN & J. P. MILDENHALL

Medical, Dental and Veterinary

129 Microbial film formation: dental plaque deposition on acrylic tiles using continuous culture techniques
C. W. KEEVIL, D. J. BRADSHAW, A. B. DOWSETT & T. W. FEARY

139 The cutaneous microbiology of normal human feet
J. MARSHALL, J. P. LEEMING & K. T. HOLLAND

Microbial Physiology

147 A bacterium yielding a polysaccharide with unusual properties
AVRIL ANSON, P. J. FISHER, A. F. D. KENNEDY & I. W. SUTHERLAND

151 Degradations of 4-cholesten-3-one and 1,4-androstadiene-3,17-dione by cholesterol-degrading bacteria
K. WATANABE, H. AIHARA, N. TACHI & R. NAKAMURA

157 Purification and properties of extracellular polysaccharide (EPS) antigens produced by different mould species
S. NOTERMANS, G. WIETEN, H. W. B. ENGEL, F. M. ROMBOUTS, P. HOOGERHOUT & J. H. VAN BOOM

Water

167 A study of thermophilic campylobacters in a river system
F. J. BOLTON, D. COATES, D. N. HUTCHINSON & A. F. GODFREE

177 Book reviews

No. 3 (March 1987)

Agriculture

181 An investigation into the sources of lactic acid bacteria in grass silage
MARGARET P. FENTON

Antimicrobial Agents

189 Correlation between antibiotic sensitivity testing by conventional and conductivity measurements
G. M. HOGG, M. F. PATTERSON & J. G. BARR

Food and Milk

197 A numerical taxonomic study of psychrotrophic bacteria associated with lipolytic spoilage of raw milk
A. W. SHELLEY, H. C. DEETH & I. C. MACRAE

209 Conventional taxonomy of lactobacilli surviving radurization of meat
J. W. HASTINGS & W. H. HOLZAPFEL

217 Efficacy of some methods and media for detecting and enumerating *Campylobacter jejuni* in frozen chicken meat
L. R. BEUCHAT

223 A note on the use of the Catalasemetre in assessing the quality of milk
J. D. PHILLIPS & M. W. GRIFFITHS

Medical, Dental and Veterinary

227 Incidence of infantile diarrhoea due to enteropathogenic *Escherichia coli* in Port Harcourt metropolis
S. P. ANTAI & S. O. ANOZIE

231 Comparison of populations of human faecal bacteria before and after *in vitro* incubation with plant cell wall substrates
ANNETTE P. SLADE, G. M. WYATT, CATHERINE E. BAYLISS & W. M. WAITES

241 Cell surface hydrophobicity and charge of *Staphylococcus aureus* and coagulase-negative staphylococci from bovine mastitis
W. MAMO, F. ROZGONYI, ANNA BROWN, S. HJERTÉN & T. WADSTRÖM

Microbial Ecology

251 Multi-stage chemostat investigation of interspecies interactions in a hexanoate-catabolizing microbial association isolated from anoxic landfill
D. A. P. COUTTS, E. SENIOR & M. T. M. BALBA

Microbial Physiology

261 Effect of alternating current exposure on the resistivity of resting *Escherichia coli* B cells to crystal violet and other basic dyes
K. SHIMADA & K. SHIMAHARA

269 Factors affecting the germination of spores of *Bacillus anthracis*
R. W. TITBALL & R. T. MANCHEE

275 A note on the isoprenoid quinone content of *Bordetella avium* and related species
MARY T. FLETCHER, P. J. BLACKALL & CATHERINE M. DOHENY

Water

279 Ampicillin-dextrin agar medium for the enumeration of *Aeromonas* species in water by membrane filtration
A. H. HAVELAAR, M. DURING & J. F. M. VERSTEEGH

No. 4 (April 1987)

Agriculture

289 Isolation and identification of a N_2-fixing zoogloea-forming bacterium from kallar grass histoplane
RAKHSHANDA BILAL & K. A. MALIK

295 Comparative study of *Agrobacterium* biotypes 1, 2 and 3 by electrophoresis and serological methods
B. ALARCON, M. M. LOPEZ, M. CAMBRA & J. ORTIZ

Antimicrobial Agents

309 Influence of specific growth rate and nutrient limitation upon the sensitivity of *Escherichia coli* towards chlorhexidine diacetate
NAOMI E. WRIGHT & P. GILBERT

315 Reduced adherence of micro-organisms to human mucosal epithelial cells following treatment with Taurolin, a novel antimicrobial agent
S. P. GORMAN, D. F. MCCAFFERTY, A. D. WOOLFSON & D. S. JONES

Food and Milk

321 Enterobacteriaceae, coliforms, faecal coliforms and salmonellas in raw ewes' milk
PILAR GAYA, MARGARITA MEDINA & M. NUÑEZ

327 Microflora associated with the internal surfaces of rubber and stainless steel milk transfer pipeline
STEPHANIE J. LEWIS & A. GILMOUR

Methods

335 Affinity purification of tetanus toxin using polyclonal and monoclonal antibody immunoadsorbents
A. J. SHEPPARD, M. HUGHES & J. STEPHEN

Microbial Physiology

349 Use of iso-osmolality plots to characterize yeast fermentative performance
R. P. JONES

361 Cellular fatty acid composition in moderately halophilic Gram-negative rods
MERCEDES MONTEOLIVA-SANCHEZ & A. RAMOS-CORMENZANA

367 A comparative study of the formation of extracellular proteins by *Aeromonas salmonicida* at two different temperatures
LORNA FYFE, G. COLEMAN & A. L. S. MUNRO

Water

371 Incidence of *Staphylococcus aureus*, coliforms and antibiotic-resistant strains of *Escherichia coli* in rural water supplies in Port Harcourt
S. P. ANTAI

377 Evaluation of a fluorescent antibody technique for the rapid enumeration of *Bacteroides fragilis* group of organisms in water
L. FIKSDAL & J. D. BERG

No. 5 (May 1987)

385 *A Review*: Microbiological hazards of occupational needlestick and 'sharps' injuries
C. H. COLLINS & D. A. KENNEDY

Food and Milk

403 Volatile compounds produced by meat pseudomonads and related reference strains during growth on beef stored in air at chill temperatures
R. A. EDWARDS, R. H. DAINTY & C. M. HIBBARD

413 Comparison of most probable number and pour plate procedures for isolation and enumeration of sulphite-reducing *Clostridium* spores and Group D faecal streptococci from oysters
T. J. EASTERBROOK & P. A. WEST

Medical, Dental and Veterinary

421 The effect of sucrose on the colonization of acrylic by *Candida albicans* in pure and mixed culture in an artificial mouth
S. RICHARDS & C. RUSSELL

429 A new scheme for phage typing *Salmonella bareilly* and characterization of typing phages
M. JAYASHEELA, G. SINGH, N. C. SHARMA & S. N. SAXENA

433 Characterization and DNA homology of *Lactobacillus* strains isolated from pig intestine
L. AXELSSON & S. LINDGREN

441 The effect of ampicillin and tylosin on the faecal enterococci of healthy young chickens
ANNE KAUKAS, M. HINTON & A. H. LINTON

Microbial Physiology

449 Uptake hydrogenase in fast-growing strains of *Rhizobium* sp. (*Sesbania*) in relation to nitrogen fixation
I. SAINI, R. CHANDER DOGRA & P. NAGPAL

453 A bioserogroup of marine vibrios possessing somatic antigen factors in common with *Vibrio cholerae* 01
TOSHIO SHIMADA, RIICHI SAKAZAKI & MASAKAZU OUE

Sterilization and Disinfection

457 Bactericidal properties of an organic N-chloramine formed *in situ*
ELISABETH D. ELDER, S. D. WORLEY & D. E. WILLIAMS

Water

465 Evolution of bacterial flora from a subterranean saline well by graduated salinity changes in enrichment media
ANA DEL MORAL, EMILIA QUESADA, VICTORIA BEJAR & A. RAMOS-CORMENZANA

No. 6 (June 1987)

Food and Milk

473 Kocho fermentation
B. A. GASHE

479 The effect of sodium chloride and temperature on the rate and extent of growth of *Clostridium botulinum* type A in pasteurized pork slurry
ANGELA M. GIBSON, N. BRATCHELL & T. A. ROBERTS

491 Effect of thermal treatments in oils on bacterial spore survival
L. ABABOUCH & F. F. BUSTA

503 Tailing of survivor curves of clostridial spores heated in edible oils
L. ABABOUCH, A. DIKRA & F. F. BUSTA

Medical, Dental and Veterinary

513 Surface properties of lactobacilli isolated from the small intestine of pigs
T. WADSTRÖM, K. ANDERSSON, M. SYDOW, L. AXELSSON, S. LINDGREN & B. GULLMAR

521 Isolation of *Yersinia enterocolitica* from the faeces of diarrhoeic swine
X. B. ZHENG

527 Factors affecting production of coccoid forms by *Campylobacter jejuni* on solid media during incubation
A. P. MORAN & MARY E. UPTON

539 A note on hydrolysis of tributyrin by *Branhamella* and *Neisseria*
T. V. RILEY

Microbial Physiology

543 Model for combined effect of temperature and salt concentration/water activity on the growth rate of *Staphylococcus xylosus*
T. A. MCMEEKIN, R. E. CHANDLER, P. E. DOE, C. D. GARLAND, JUNE OLLEY, S. PUTRO & D. A. RATKOWSKY

Sterilization and Disinfection

551 A modified Kelsey-Sykes method for testing disinfectants with 2,3,5-triphenyltetrazolium chloride reduction as an indicator of bacterial growth
T. MATTILA

Water

555 Proficiency testing of water microbiology laboratories in The Netherlands
A. H. HAVELAAR, W. M. HOGEBOOM, V. M. SEKHUIS & E. H. W. VAN ERNE

565 Presence of *Erwinia carotovora* in surface water in North America
M. D. HARRISON, G. D. FRANC, D. A. MADDOX, J. E. MICHAUD & N. J. MCCARTER-ZORNER

571 Book reviews